Home Ethernet Gateway User Guide

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1 Welcome To Home Networking

In today's fast-paced world, communication and sharing information are crucial. Computer networks are among the fastest ways to share information, and 3Com has brought this exciting technology into the home with the our home networking product line.

The home networking products from 3Com give the home user the same power, flexibility, and protection that has been available only to large corporations. Now, you can network the computers in your home, connect them all to a single Internet outlet, and harness the combined power of all of your computers.

Home Ethernet Gateway

Figure 1 Home Ethernet Gateway

The Home Ethernet Gateway features:

- Modem and IP sharing

  Connect multiple computers to a modem (cable, DSL, analog, or ISDN) or an Ethernet router to surf the Internet.

- Auto-sensing Ethernet switch

  Network up to four computers with the 4-port auto-sensing Ethernet switch.

- Virtual private network (VPN)

  Support for multiple PPTP sessions included, allowing you to setup VPN server and VPN clients.

- Printer sharing

  Embed a print server to allow all of the networked computers to share one printer.

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- Firewall

  All unwanted packets from outside intruders are blocked to protect your home network.

- DHCP server

  All of the networked computers can retrieve TCP/IP settings automatically from the gateway.

- Web-based configuration

  The gateway is configurable through any Web browser using Netscape Communicator or Internet Explorer.

- Access control

  Different access rights can be assigned to different computers on your home network.

- Virtual server

  Enable access to the Web, FTP, and other services on your home network.

- User-Definable application sensing tunnel

  Attributes can be defined to support special applications requiring multiple connections, like Internet gaming, video conferencing, and Internet telephony, The gateway can then sense the application type and open a multi-port tunnel for it.

- De-Militarized Zone (DMZ) host

  Fully expose one of the computers on your network to the Internet. This function is used when special application sensing tunnel feature is insufficient to allow an application to function correctly.

Kit Contents

- Home Ethernet Gateway
- Installation CD-ROM
- Power cord and power adapter
- Fast Ethernet cables (2)

Using This Guide

The rest of this user guide contains detailed information about your gateway and how to connect it to your home network and the Internet.

- **Chapter 2** familiarizes you with the front, rear, top, and left panels of the gateway, including information concerning LEDs and ports.
- **Chapter 3** explains the procedure involved in setting up your computers to connect to the gateway.
- **Chapter 4** is an overview of the Web-based setup program.
- **Chapter 5** explains how to set up the printer sharing option.
- **Appendix A** details console mode, in which you can change the password of the gateway if your forget it and configure other settings.
- The **Glossary** provides devinition for key terms concerning the installation and operation of the gateway.

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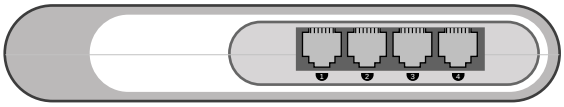
2 HARDWARE INSTALLATION

This chapter describes the panel layout of the Home Network Gateway, as well as detailing the hardware installation procedure.

Panel Layout

Front Panel

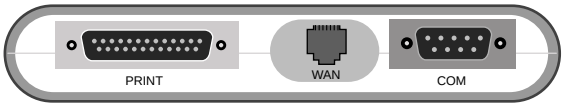
The front panel of the gateway contains 4 Ethernet ports.



Ports 1 - 4 These ports function as your Ethernet switch. After you connect the devices to these ports, (including computers, hubs, etc.), they can be networked together, and you can share files between the computers on your home network.

Rear Panel

The rear panel of the gateway contains three ports: the PRINT port, the WAN port, and the COM port.



PRINT Parallel port connector (25-pin D-type female). This is where you will connect the shared printer.

WAN WAN port (RJ-45). This is where you will connect to your cable or DSL modem.

COM Serial port connector (9-pin D-type male). This is where you will connect your analog or ISDN modem.

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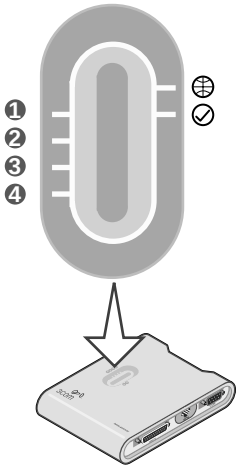
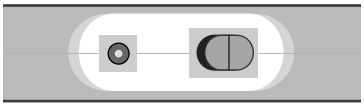
Top Panel

The top panel of the gateway contains 6 LEDs.



Ethernet Ports (1-4)	The Ethernet port LEDs (green) will flicker when the corresponding port is sending or receiving data.
WAN (globe icon)	The WAN port LED (green) will flicker when the WAN port is sending or receiving data.
Status (checkmark icon)	The Status LED will flash once per second to indicate that the gateway is functioning correctly.

Left Side Panel



Power connector (1)	Plug the included power adapter into this connector. Use only the power adapter that came with the gateway.
Power switch (2)	Turns the power to the gateway on and off.

Installation Requirements

The gateway can be positioned in any convenient place in your office or home. Follow these guidelines to ensure a troublefree installation:

- Place the gateway on a flat horizontal surface.
- Keep the gateway away from any sources of heat.
- Do not place the gateway in a dusty or wet environment.

Be sure to turn off the power, remove the power cord from the outlet, and keep your hands dry when connecting other devices to the gateway.

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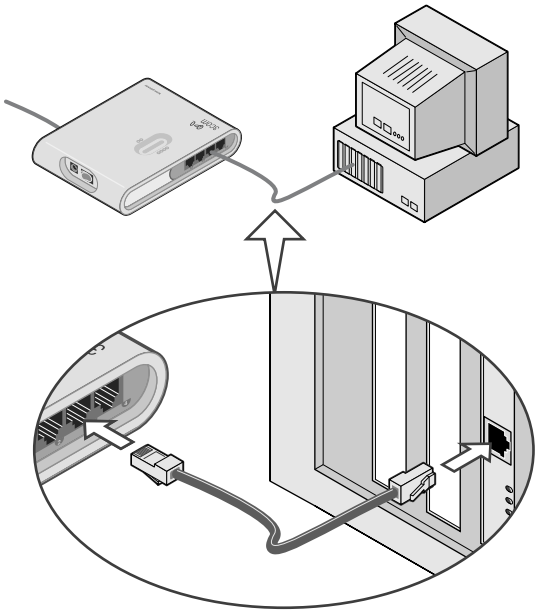
Hardware Installation

This section details the cable connection procedures for the Home Ethernet Gateway.

Computer Connection

To create your home network, connect an Ethernet cable from the Ethernet port of your computers to one of the Ethernet ports of the gateway, as shown in the figure, below.

All networked computers must have Ethernet networking capabilities to connect to the gateway.



Modem Connection

There are two ways to connect modems to the gateway: using the WAN port (if you are using a cable or DSL modem), or the COM port (if you are using an analog or ISDN modem)

Cable or DSL Modem Connection

To connect a cable or DSL modem to the gateway, use one of the included Ethernet cables to connect the WAN port of the gateway to your modem, as shown in the figure below. See your cable or DSL modem documentation for more details.

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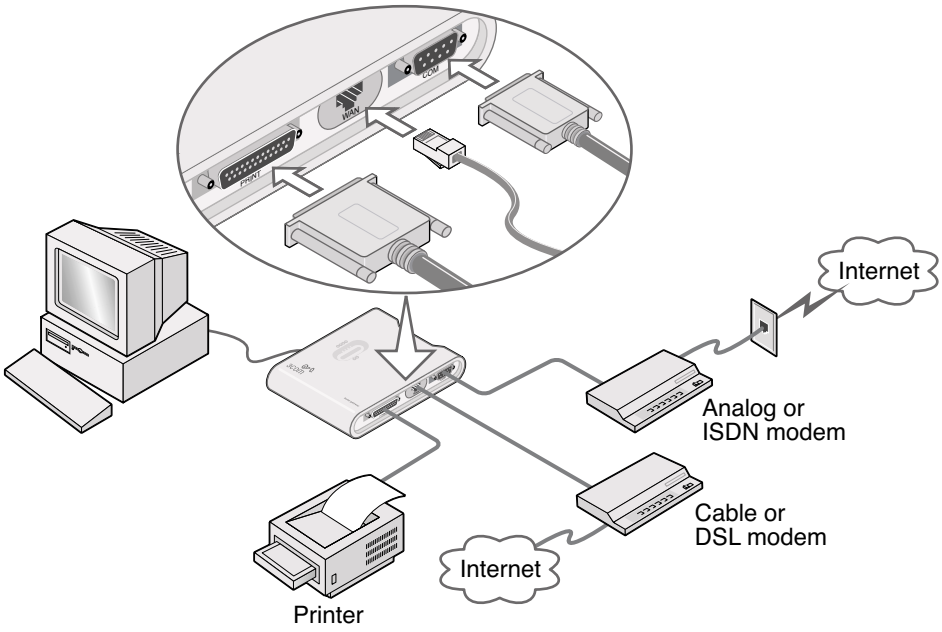
Analog or ISDN Modem Connection

To connect an analog or ISDN modem to the gateway, use a COM cable to connect the COM port of the gateway to your modem, as shown in the figure below. See your analog or ISDN modem documentation for more details.



Printer Connection

To connect a printer to the gateway, connect the printer cable to the PRINT port of the gateway, as shown in the figure, above.

To use your gateway as a print server, allowing you to share one printer across your home network, see Chapter 5 of this user manual for more details.

Power

To supply power to the gateway, insert the power adapter plug in the power connector of the gateway (see "Left Side Panel" on page 4). Then, power up the devices of your home network in the following order:

- Modem
- Home Ethernet Gateway
- Other devices (computers, printer, etc.)

Self-Test Phase

Once the gateway is powered up, it will automatically enter self-test phase. When it is in self-test phase, the WAN and Status LEDs (see "Top Panel" on page 4) will illuminate for about 5 seconds, and then flash three times to indicate that the self-test has finished. Finally, the Status LED will flash once per second to indicate that the gateway is operating normally.

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3 NETWORK SETTINGS

This chapter explains how to configure the network settings of the computers on your home network running Windows 95, 98, and NT 4.0, and Macintosh operating systems.

Network Settings

The default IP address of this product is 192.168.2.1, and the default subnet mask IP address is 255.255.255.0. These addresses can be changed, but these default values are used throughout this manual.

TCP/IP Settings with Internet Sharing

If you want to set up the computers on your home network to share your Internet connection

Windows 95, 98, and NT 4.0

1. Click *Start* and choose Settings, then *Control Panel*.
2. Double-click *Network*, and then select *Configuration*.
3. Scroll down the List window and select the TCP/IP option for the network card that corresponds to your network interface card. For more details, see the documentation that came with your network card.
4. Click *Properties* to set the TCP/IP protocol for the IP Sharer. Choose one of the following options:
   - **a** To obtain an IP address automatically:
     - Select *IP Address*, and then select *Obtain an IP address automatically***.**
     - Select *DNS Configuration*, and then select *Disable DNS***.**
   - **b** To configure an IP address manually:
     - Select *IP Address* and then *Specify an IP address*. Since the default IP address of the gateway is 192.168.2.1, enter **`192.168.2.x`** (where **x** is a value from 2 to 100) in the IP Address field. Enter **`255.255.255.0`** in the Subnet Mask field.
     - Select *Gateway*, and then enter the IP address of the gateway (the default IP address is 192.168.2.1) in the New Gateway field. Click *Add*.
     - Select *DNS Configuration*, and then enter the DNS values provided by your ISP into the DNS Server Search Order field. Click *Add*.
5. Restart your computer.

Macintosh

1. Click the Apple Menu and select *Control Panels*, *TCP/IP.*
2. From the *Configure:* drop-down list, select *Using DHCP Server.*
3. Quit *TCP/IP*, and restart your computer.

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TCP/IP Protocol Installation

This section describes how to install the TCP/IP protocol in computers running Windows 95 and 98.

1. Click Start and choose *Settings*, and then *Control Panel*.
2. Double-click the *Network* icon and select *Configuration*.
3. Select *Add* to add the network component.
4. Double-click *Protocol* to add the TCP/IP protocol.
5. Select *Microsoft* from the manufacturer's list. Select *TCP/IP* from Network Protocols. Click *OK* to return to the Network window.
6. The installed TCP/IP protocol will be listed in the Network window. Click *OK* to complete the install procedure and restart your computer.

Ping Command

After configuring the TCP/IP settings, use the ping command to check if your computer has successfully connected to this product. The following example shows the ping procedure for Windows 95.

First, execute the ping command:

```
ping 192.168.123.254
```

If the following message appears,

```
Pinging 192.168.123.254 with 32 bytes of data:
Reply from 192.168.123.254: bytes=32 time=2ms TTL=64
```

a communication link between your computer and the gateway has been successfully established.

However, if this message appears,

```
Pinging 192.168.123.254 with 32 bytes of data:
Request timed out.
```

there was a problem with the installation procedure. Check the following items:

- Ethernet cable connections between the gateway and computer.

  The corresponding port LED and the link LED of the network card installed in your computer should be illuminated.

- TCP/IP settings of the computer.

  If the IP address of the gateway is 192.168.2.1, the IP address of the computer must be 192.168.2.x (with x representing a number from 2through 100) and the IP address of the default gateway must be 192.168.2.1.

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4 INTERNET SHARING SETUP

Internet sharing allows you to share a single Internet connection among all of the computers on your home network. You can configure your home network for Internet sharing by using the Internet sharing setup program provided with the Home Network Gateway.

The Internet sharing setup program is Web-based, which means that it is accessed through your Web browser (usually Internet Explorer or Netscape Navigator) running on your Windows, Macintosh, or UNIX computer.

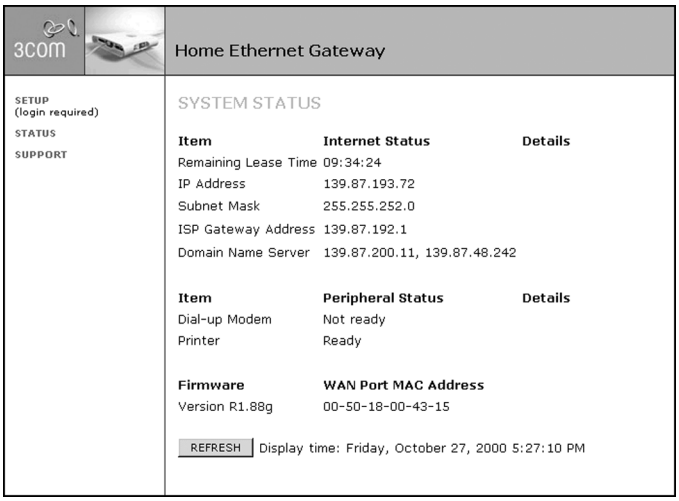
Before beginning this section, you should contact your ISP to find out what kind of Internet connection you have (Dynamic IP, Static IP, PPP over Ethernet, or Dial-Up), as well as collect all relevant addresses you will need to setup the gateway.

Setup Program

To use the setup program:

1. Activate your browser.
2. Type the IP address of the gateway in the Location (Netscape) or Address (Internet Explorer) field, and click *Enter* on the keyboard.

   For example, if you are using the default address of the gateway, type **`http://192.168.2.1`** into the Address or Location field. After the connection is established, the setup program will launch and the user startup screen will appear.



The startup screen, System Status, contains information about the status of the gateway, including IP address, dial-up modem status (if applicable), and firmware version.

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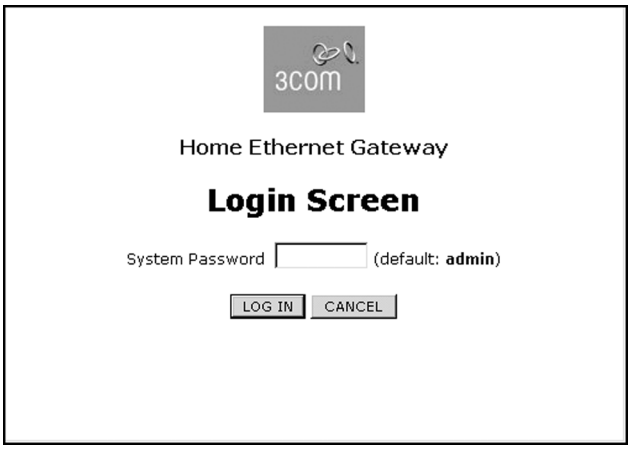
On the left side of the screen is a menu, containing three items: Setup, Status, and Support.

Selecting *Setup* guides you to Administrator Mode (see below). Selecting *Status* generates the System Status screen. Selecting *Support* generates the Support Links screen, which contains a list of Internet links that provide information and support concerning the gateway.

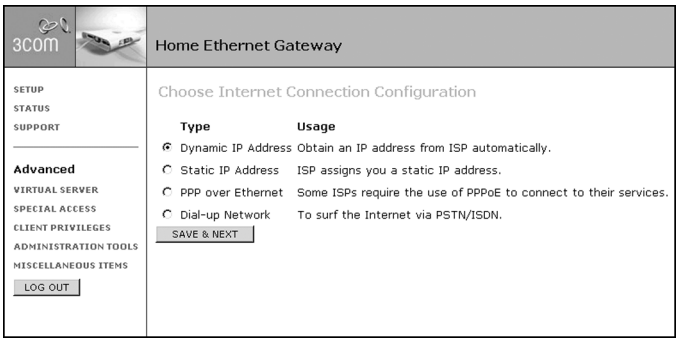
Administrator Mode

Entering administrator mode allows you to setup your gateway for the type of Internet connection you have, as well as access special features such as Virtual Server and DMZ Host.

To enter administrator mode, select *Setup* from the menu on the left side of the System Status screen. The Login Screen will appear.



To log in as an administrator, enter the system password (the default setting is *admin*) in the *System Password* field and click *Log in*. If the password is correct, the Choose Internet Connection Configuration screen will appear.



This screen allows you to set up the gateway for the type of Internet connection you have. By activating the radio button next to the type of connection listed, you can configure the gateway to that connection.

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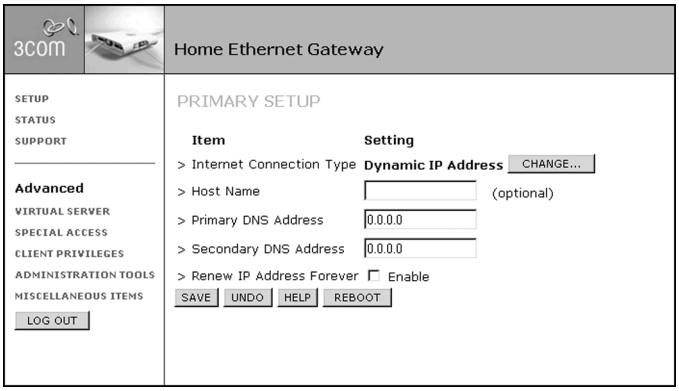
Dynamic IP Address

Activating the *Dynamic IP Address* radio button and then clicking *SAVE & NEXT* in the Choose Internet Connection Configuration screen will generate the Primary Setup screen for Dynamic IP Address setup.



To setup the gateway for use with a dynamic IP address connection:

1 Enter your primary and secondary DNS addresses.

Your ISP should provide your primary and (optional) secondary DNS addresses. Enter the addresses in the appropriate text boxes. If you are using the DHCP option (which automatically assigns your IP address), the value

`0.0.0.0`

will already by entered in the text box.

2 Enter the Host Name (optional).

Some ISPs require a host name. If your ISP has this requirement, enter the host name in the *Host Name* text box.

3 Choose your Renew IP Address Forever option.

If you want the gateway to renew its IP address automatically, even if the gateway is in an idle state, click the *Enable* check box.

4 Check all of your settings, and then click *Save*.

The gateway will restart, and your settings will be activated.

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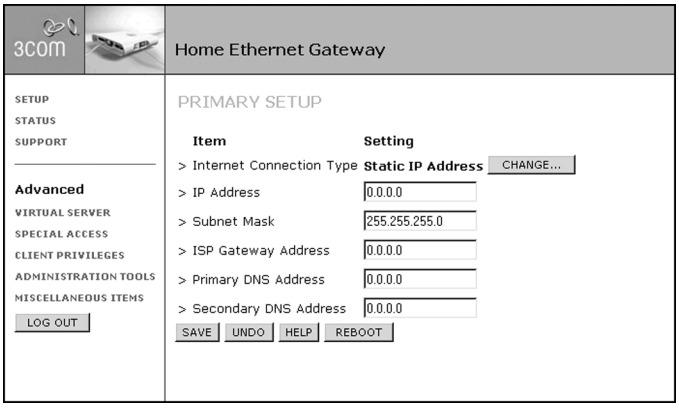
Static IP Address

Activating the *Static IP Address* radio button and then clicking *SAVE & NEXT* in the Choose Internet Connection Configuration screen will generate the Primary Setup screen for Static IP Address setup.



To setup the gateway for use with a static IP address connection, use the following procedure:

1. Enter your IP Address in the IP Address text box.

   This information, along with the rest of the information in this screen, should be provided to you by your ISP. If the information is already entered, your ISP has provided it to you automatically, and you should go to step 6.

2. Enter your subnet mask address in the Subnet Mask text box.
3. Enter your ISP gateway address in the ISP Gateway Address text box.
4. Enter your primary DNS address in the Primary DNS Address text box.
5. Enter your secondary DNS address in the Secondary DNS Address text box.

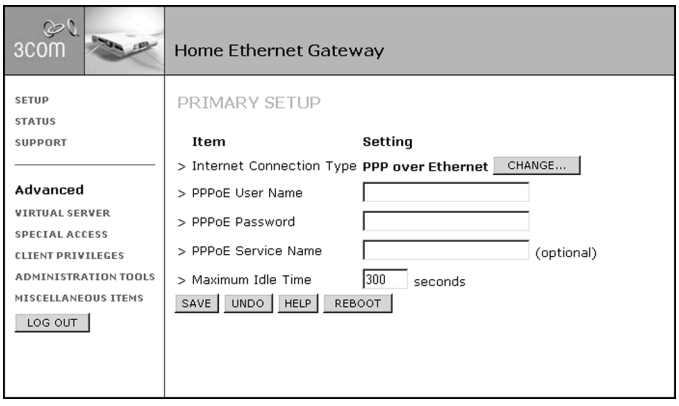
   This step is optional. Not all ISPs require a secondary DNS address.

6. Check all of your settings, and then click *Reboot*.

   The gateway will restart, and your settings will be saved and activated.

PPP Over Ethernet

Activating the *PPP over Ethernet* radio button and then clicking *SAVE & NEXT* in the Choose Internet Connection Configuration screen will generate the Primary Setup screen for PPP over Ethernet setup.



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To setup the gateway for use with a PPP over Ethernet connection, use the following procedure:

1 Enter your PPP over Ethernet user name in the *PPPoE User Name* text box.

2 Enter your PPP over Ethernet password in the *PPPoE Password* text box.

If you don't want to change the password, leave this text box empty.

3 Enter your PPP over Ethernet service name in the *PPoE Service Name* text box.

This is optional. Not all ISPs require a PPPoE service name.

4 Enter a value in the *Maximum Idle Time* text box.

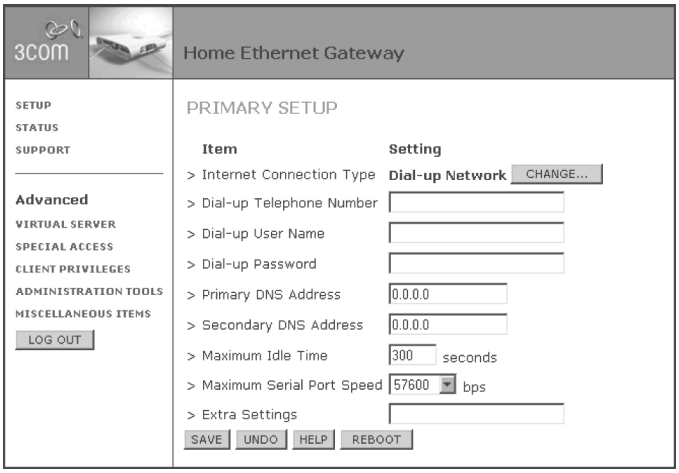
This value will correspond to the amount of idle time (no Internet activity), in seconds, that will pass before the gateway automatically ends your PPP over Ethernet session. Leave the text box blank to disable this function.

5 Check all of your settings, and then click *Reboot*.

The gateway will restart, and your settings will be activated.

Dial-up Network

Activating the *Dial-up Network* radio button and then clicking *SAVE & NEXT* in the Choose Internet Connection Configuration screen will generate the Primary Setup screen for dial-up networking setup.



To setup the gateway for use with a dial-up connection, use the following procedure:

1 Enter your dial-up telephone number in the *Dial-up Telephone Number* text box.

2 Enter your dial-up user name in the *Dial-up User Name* text box.

3 Enter your dial-up password in the Dial-up Password text box.

4 Enter your primary DNS address in the Primary DNS Address text box.

5 Enter your secondary DNS address in the Secondary DNS Address text box.

This is optional. Not all ISPs require a secondary DNS address.

6 Enter a value in the *Maximum Idle Time* text box.

This value will correspond to the amount of idle time (no Internet activity), in seconds, that will pass before the gateway automatically ends your dial-up session. Leaving the text box blank disables this function.

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7 Choose a value from the *Maximum Serial Port Speed* list box.

This value should correspond to the highest possible data transfer speed of your analog or ISDN modem. See your modem documentation for more details.

8 Extra Settings

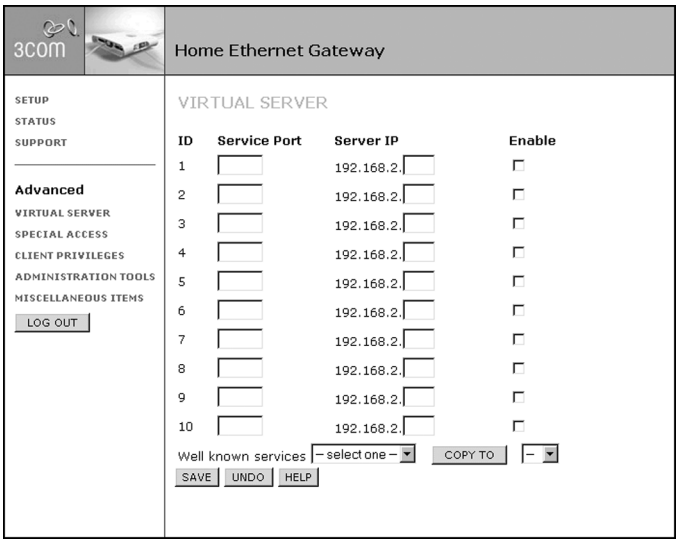
Leave the *Extra Settings* text box blank. This feature is for future upgrades only.

Menu Settings

On the left hand side of the Choose Internet Connection Configuration screen is a menu with five listings: Virtual Server, Special Access, Client Privileges, Administration Tools, and Miscellaneous Items.

Virtual Server

Selecting Virtual Server generates the Virtual Server screen.



Activating and configuring a virtual server allows one or more of the computers on your home network to function as an Internet service host. For example, one of your computers could be configured as an FTP host, allowing others outside of your home network to download files of your choosing. Or, if you have created a Web site, you can configure one of your computers as a Web server, so that others can view your Web site.

To configure a virtual server:

1 Enter the service port you wish to activate in the *Service Port* text box.

For example, to create an FTP server, enter 21 in the Service Port text box. For a list of popular services and their respective port numbers, see--------. Or, you can find a service in the *Well known services* list box, select it, and enter the ID number in the text box next to the *COPY TO* button. Clicking *COPY TO* will cause the chosen service port number to appear in the proper Service Port text box.

2 Enter the last digit(s) of the IP address of the computer on your home network that will host the Internet service.

The available pool of IP addresses on your home network is 2 though 100.

3 Activate the Enable check box.

4 Click *SAVE*.

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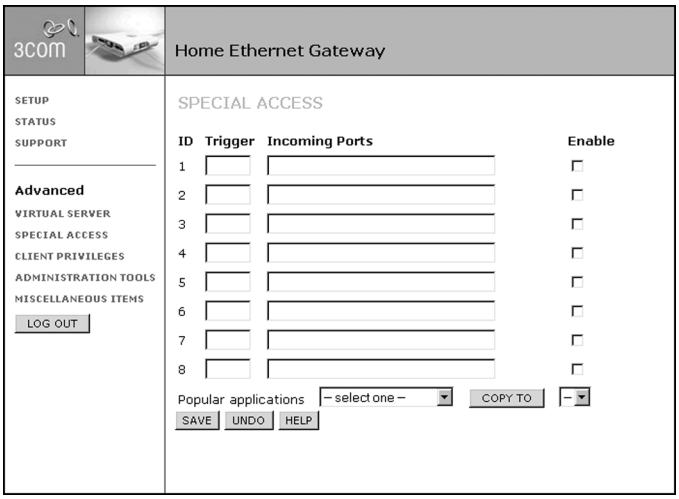
Special Access Select *Special Access* to generate the Special Access screen.



Some applications, such as Internet telephony, Internet gaming, and video conferencing require multiple connections, which the gateway does not allow during normal operation. However, by configuring the gateway in the Special Access screen, you can access these applications.

To configure special access:

1 Enter a value in the *Trigger* and *Incoming Ports* text boxes.

These values correspond to the outbound port number issued by the application. If you do not know the outbound port number, it may be listed in the *Popular applications* list box. Select the application, and then enter the ID number of the computer you are configuring in the text box next to the Copy To button. Click *COPY TO*, and the information will appear in the proper Trigger and Incoming Ports text boxes.

2 Click *SAVE*.

Only one computer on your home network can be configured for special access at any one time.

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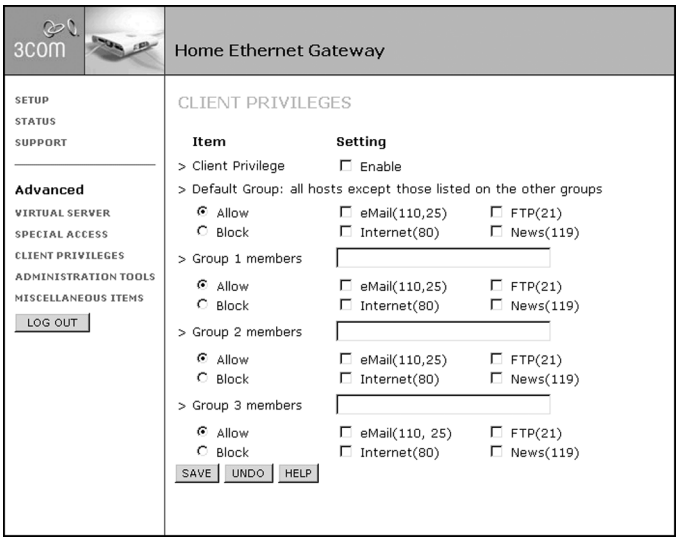
Client Privileges Select *CLIENT PRIVILEGES to* generate the Client Privileges screen.



Client Privileges allows you to assign different access rights for different computers on your home network.

To use access control:

1 Click in the *Enable* check box.

2 Assign the computer to a group.

Computers are identified by their IP addresses. You can assign computers to Group 1, 2, or 3. Computers not assigned to Groups 1, 2, or 3 are automatically assigned to the Default Group. List the group members (by their IP addresses) in the member text box.

3 Assign the access rights of each group.

Access rights allow or deny users access to specified TCP and UDP ports. TCP and UDP ports correspond to specific Internet services, such as browsing the Internet or accessing newsgroups. There are two steps in assigning access rights.

a Activate the *Allow* or *Block* radio buttons.

Activating Allow will give the members of the particular group access to the service(s) you indicate in step 2b (see below). Activating Block denies access to the services chosen in step 2b.

b Select the service(s) to allow or block by clicking in the appropriate check box(es).

For example, if you wish to deny access to all services for a particular group, you can do it one of two ways: click *Block* and select all services; or, click *Allow* and select no services.

4 Click *SAVE*.

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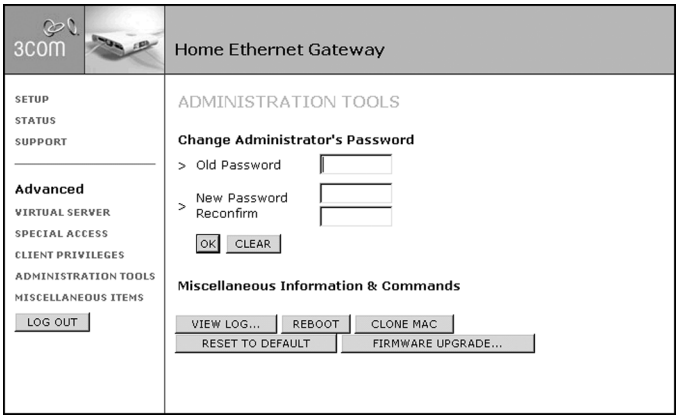
Administration Tools

Selecting *Administration Tools* generates the Administration Tools screen.



Change Password

You can change the password from the *Administration Tools* screen. Enter your old password in the *Old Password* text box, and then enter the new password in the *New Password* and *Reconfirm* text boxes. Click *OK*.

We strongly recommended that you to change the system password the first time you enter administrator mode. If you forget the system password, please refer to Appendix A to create a new one.

View Log

Click *View Log* to generate the System Log screen, which displays information about your type of connection.

Reboot

Click *Reboot* to reboot the gateway. Any information not saved will be lost.

Clone MAC

If your ISP requires an assigned MAC address, click *Clone MAC*. The gateway will automatically substitute its default MAC address with the MAC address your ISP has assigned.

Restore to Default

Click *Restore to Default* to reset all the settings of the gateway to factory default. All current settings will be lost.

Firmware Upgrade

The firmware of the gateway contains the intelligence the gateway uses to perform its many functions. This firmware is updated on a regular basis to provide the gateway more functionality. To update the firmware:

1 Go to the 3Com Web site at http://support.3com.com/index and click *Home Networking.* If there is a firmware update, it will be found here.

Note the location of the file after you have downloaded it onto your hard drive.

2 Click *Firmware Upgrade*.

The Firmware Upgrade screen will appear.

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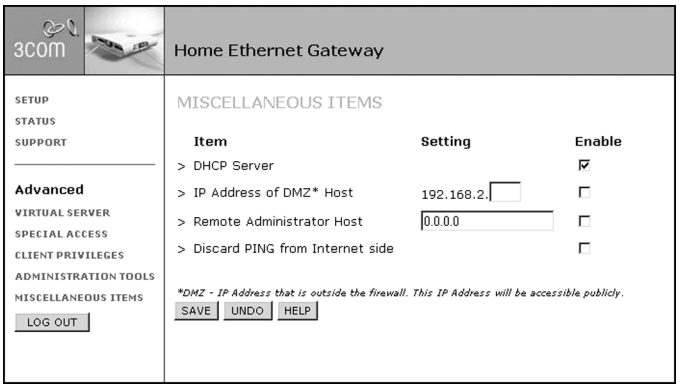
3 Enter the location of the previously downloaded file in the text box, or click *Browse* to search for the file.

4 After the file has been located, click *Upgrade*.

The firmware of the gateway will be upgraded. Make sure that you do not power down the gateway during the upgrade procedure. If this occurs, you will have to restore the settings of the gateway to factory defaults (see above), and then reenter all of your settings.

Miscellaneous Items Select *Miscellaneous Items to* generate the Miscellaneous Items screen.



The Miscellaneous Items screen contains four options: DHCP Server, IP Address of DMZ* Host, Remote Administrator Host, and Discard Ping from Internet side.

DHCP Server

Correctly configuring all the TCP/IP settings of the computers in your home network is a complicated and time-consuming task. Fortunately, the setup program provides a simple approach to handle all these settings. Instead of setting up each computer separately, the gateway can act as a DHCP server, alloting each computer on your home network an IP address.

To activate the DHCP Server option, click the Enable check box that corresponds to *DHCP Server*.

DMZ Host

A DMZ (De-Militarized Zone) Host is a computer without the protection of firewall. This state allows the computer to be exposed to unrestricted 2-way communication from outside of your home network. This feature should be used only if the Virtual Server or Special Applications options do not provided the level of access needed for certain applications.

To configure one of your computers as a DMZ host, enter the last digit(s) of the IP address of the computer in the *IP Address of DMZ Host* text box, and then click the *Enable* check box.

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Remote Administrator Host

In general, only a user on your home network can use the setup program of the gateway. The remote administrator host feature enables you to perform administration tasks from a remote host, that is, a computer not a part of your home network.

To activate the remote administrator host feature, enter the IP address of the remote host in the *Remote Administrator Host* text box. If the IP address entered is `0.0.0.0`, any host can connect to the gateway to perform administration tasks, provided the user knows the IP address of the gateway. Then, click the Enable check box that corresponds to Remote Administrator Host.

When this feature is enabled, the Web port will be shifted to 88.

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5 PRINT SERVER

The Home Network Gateway also can function as a network print server for computers running Windows 95, 98, and NT 4.0, and UNIX based platforms.

Using the gateway as a print server allows you to share the printer connected to the gateway among all of the computers on your home network.

Software Installation

Before using the print server function, you must install the software on one of the computers of your home network. To install the software:

1. Insert the installation CD into the CD-ROM drive.

   The installation screen will appear. If not, run the file *install.exe* from the CD.
2. Click *Install*.

   Wait for the Welcome dialog box to appear, and then click *Next*.
3. Select the destination folder, and click *Next*.

   The setup program will begin to install the programs into the destination folder.
4. When the next dialog box appears, click *Finish*.
5. In the next dialog box, select *Restart the computer* and then click *OK* to reboot your computer.

Configuring Printer Properties

Windows 98 and 95

After you have finished the software installation, you must configure the printer properties on the computer.

1. From the *Start* menu, select *Settings*, and then *Printers*.
2. Locate the icon that corresponds to the printer connected to the gateway.

   Right-click the icon, and then select *Properties*.
3. Select *Details*, and then select *PRTmate: (All-in-1)* from the *Print To the following port:* list.

   Be sure that the printer driver is the correct driver for your the printer.
4. Click *Port Settings*. Enter the IP address of the gateway, and then click *OK*.
5. Make sure that all settings mentioned above are correct, and then click *OK*.

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Windows NT

1. From the *Start* menu, select *Settings*, and then *Printers*.
2. Locate the icon that corresponds to the printer connected to the gateway.

   Right-click the icon, and then select *Properties*.
3. Select *Ports*, and then select *PRTmate: (All-in-1)* from the *Print To the following port:* list.

   Be sure that the printer driver is the correct driver for your the printer.
4. Click *Configure Port.* Enter the IP address of the gateway and then click *OK*.
5. Make sure that all settings mentioned above are correct and then click *OK*.

Configuring on UNIX-based Platforms

Follow the traditional configuration procedure on UNIX platforms to setup the print server of this product. The printer name is "lp."

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A

Console Mode

If you forget the system password or the IP address of the Home Network Gateway, you can enter console mode to reset them.

1. Use a null modem cable to connect from the COM port on the gateway to the COM port of the computer.
2. Launch a terminal program, such as *HyperTerminal*.
3. Set the connection parameters to *19200 8-N-1*.
4. Reboot the gateway.

   When the Status LED starts flashing, click *Enter* on the keyboard several times. A series of messages will appear, followed by the console prompt, ">".

   In the console mode, you can reset the IP address and the system password of this product. Remember to use the *SR* command to save changes. For example, to change the IP address of the gateway and return the password to admin, type the following:

```
IP 192.168.123.254
PW admin
SR
```

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GLOSSARY

Analog modem Analog modem uses existing phone lines to send and receive data.

DHCP Dynamic Host Configuration Protocol. This protocol automatically configures the TCP/IP settings of every computer on your home network.

DNS Server Address DNS stands for Domain Name System, which allows Internet host computers to have a domain name (such as 3com.com) and one or more IP addresses (such as 192.34.45.8). A DNS server keeps a database of host computers and their respective domain names and IP addresses, so that when a domain name is requested (as in typing "3com.com" into your Internet browser), the user is sent to the proper IP address. The DNS server address used by the computers on your home network is the location of the DNS server your ISP has assigned.

DSL modem DSL stands for digital subscriber line. A DSL modem uses your existing phone lines to send and receive data at high speeds.

Ethernet A standard for computer networks. Ethernet networks that are connected by special cables and hubs move data around at up to 100 million bits per second (Mbps).

IP address IP stands for Internet Protocol. An IP address, which consists of a series of four numbers separated by periods, identifies a single, unique Internet computer host. Example: 192.34.45.8.

ISDN modem ISDN stands for Integrated Services Digital Network. An ISDN modem uses your existing phone lines to send and receive data at higher speeds than analog modems.

ISP Internet service provider. An ISP is a business that provides connectivity to the Internet for individuals, businesses, and organizations.

LAN Local area network. A LAN is a group of computers and devices connected together in a relatively small area (such as a house or office). Your home network is considered a LAN.

MAC address MAC stands for media access control. A MAC address is the hardware address of a device connected to a network.

NAT Network address translation. This process allows all of the computers on your home network to use one IP address. Using the NAT capability of the Home Ethernet Gateway, you can access the Internet from any computer on your home network without having to purchase more IP addresses from your ISP.

Print server A device that enables a printer to be shared across a network. The Home Ethernet Gateway can be used as a print server for your home network.

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PPPoE Point-to-Point Protocol over Ethernet. Point-to-Point Protocol is a method of secure data transmission originally created for dial-up connections; PPPoE is for Ethernet connections.

subnet mask A subnet mask, which may be a part of the TCP/IP information provided by your ISP, is a set of four numbers configured like an IP address. It is used to create IP address numbers used only within a particular network (as opposed to valid IP address numbers recognized by the Internet, which must assigned by InterNIC).

TCP/IP Transmission Control Protocol/Internet Protocol. This is the standard protocol for data transmission over the Internet.

WAN Wide area network. A network that connects computers located in geographically separate areas, (i.e., different buildings, cities, countries). The Internet is an example of a wide area network.

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Home Ethernet Gateway

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P.O. Box 58145
Santa Clara, CA 95052-8145 USA
(408) 326-5000

FCC Class A Verification Statement

WARNING: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules, and the Canadian Department of Communications Equipment Standards entitled, "Digital Apparatus," ICES-003. These limits are designed to provide reasonable protection against harmful interference in a commercial installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case, the user will be required to correct the interference at the user's own expense.

Changes or modifications not expressly approved by 3Com could void the user's authority to operate this equipment.

FCC Class B Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1 This device may not cause harmful interference, and

2 This device must accept any interference received, including interference that may cause undesired operation.

WARNING: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from the one which the receiver is connected to.
- Consult the dealer or an experienced radio/TV technician for help.

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The user may find the following booklet prepared by the Federal Communications Commission helpful:

The Interference Handbook

This booklet is available from the U.S. Government Printing Office, Washington, D.C. 20402. Stock No. 004-000-00345-4.

Tested to comply with the FCC Standards for home and office use.

NOTE: In order to maintain compliance with the limits of a Class B digital device, 3Com requires that you use quality interface cables when connecting to this device. Changes or modifications not expressly approved by 3Com could void the user's authority to operate this equipment. Refer to the manual for specifications on cabling types.

FCC Declaration of Conformity

We declare under our sole responsibility that the

Model:	**Description:**
3C510	Home Ethernet Gateway

to which this declaration relates, is in conformity with the following standards or other normative documents:

- ANSI C63.4-1992 Methods of Measurement

Federal Communications Commission 47 CFR Part 15, subpart B
Responsible Party:
3Com Corporation, 5400 Bayfront Plaza, P.O. Box 58145, Santa Clara, CA 95052-8145 USA (408) 326-5000

Industry Canada Class B Emission Compliance Statement

This Class B digital apparatus complies with Canadian ICES-003.

Avis de Conformité à la Réglementation d'Industrie Canada

Cet appareil numérique de la classe B est conform à la norme NMB-003 du Canada.

VCCI Class B Statement

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